AMENDMENTS TO THE SPECIFICATION:

Please amend the specification as follows:

On page 4, please replace the paragraph beginning at line 11 with the following amended paragraph:

According to another aspect of the invention, a system is provided including the plurality of sample solutions described in the immediately preceding paragraph, and a multi-well plate for containing the plurality of sample solutions and for exposing the solutions to electromagnetic radiation. Each well of the multi-well plate has a path length dimension provided to a level of ~~accuracy~~ error of no more than 0.5 %. A separate blank solution is provided free of the first chromophore and including the second chromophore.

On page 9, please replace the paragraph beginning at line 19 with the following amended paragraph:

In one embodiment, it is not assumed that the wells have a perfect dimension. In the example of a cylindrical cell or well, when making calculations of liquid volume in the well, the degree of taper or draft in the well is quantified. In another embodiment, the diameter of the well is measured. In yet another embodiment, both the degree of taper and diameter are measured. Preferably, these measurements are made to a level of ~~accuracy~~ error of no more than 0.5 %, preferably no more than 0.2% and even more preferably no more than 0.1%. For example, when used with commercially available multi-well microtiter plates, the method of the present invention treats the actual shape

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of the well as a truncated cone of diameter and taper given by the measured dimensions. The volume of a well of this shape filled to a depth l is given by:

$$V_T = \pi l \frac{\phi^2}{4} + \pi \phi l^2 \frac{\tan(\gamma)}{2} + \pi l^3 \frac{\tan^2(\gamma)}{3} \quad (2)$$

where ϕ is the diameter of the well at the bottom, and γ is the half angle of the taper.

On page 10, replace the paragraph beginning at line 1 with the following new paragraph:

In another embodiment, each individual well in a multi-well plate is accurately measured using a method traceable to national standards. Another assumption made in prior art calibration methods is that each well in the plate is the same dimension from one plate to the next, or from one group or lot of plates to the next. In actuality, there is a variability in the dimensions of a molded plastic part depending on the exact conditions of molding, e.g. temperatures of the mold and the molten plastic as it enters the mold, the cooling time of the part in the mold before it is ejected, the moisture content of the plastic raw material before molding, as well as on the dimensions of the mold. This variability reduces the ability to reproduce well dimensions to a high level of accuracy. Typical manufacturer dimensional specifications for a 96 well plate provide a diameter of all wells within 1 % of the nominal diameter. A 1 % error in well diameter, however, leads to a 2 % error in the computed delivery volume. In one embodiment, the method of the invention, each well of a multi-well plate is measured in at least one dimension to a level of ~~accuracy~~ rror of no more than 0.5%, preferably no more than

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0.2%, and more preferably no more than 0.1%. In this way, error due to plate-to-plate variability is substantially reduced.

On page 12, please replace the paragraph beginning at line 22 with the following new paragraph:

The kit can also include an accurately measured sample holder or, for multiple calibrations, a multi-well microtiter plate. In accordance with an embodiment described previously, a precise mapping of the actual shape is taken into account and an accurate measurement of at least one dimension, such as the diameter and/or degree of taper, is performed, preferably to a level of ~~**accuracy**~~ **error** of no more than about 0.5 %, preferably no more than about 0.2 % and even more preferably no more than about 0.1%. Preferably, the physical dimensions of the wells in these plates are measured using a method traceable to national standards.

On page 19, please replace the paragraph beginning at line 17 with the following new paragraph:

FIG. 4 is a schematic diagram of one embodiment of a calibration plate 50. Calibrator plate 50 includes a housing or casing 52 which holds a series of sample holders or cuvettes 54. Casing 52 includes spacers 56 for separating one cuvette from another. In this example, the sample holder 54 is the cuvette shown in FIG. 1, which provides a fixed path length *l*. Each cuvette has opposing parallel transparent side walls for allowing light to penetrate through the solution. Side wall 62 is parallel to another wall not shown here. Those of ordinary skill in the art can readily envisage

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other designs for the calibrator plate with a series of sample holders. Each sample holder 54 contains sample solutions having a first and second chromophore, as described previously. The solutions are sealed in sample holder 54 by cap 58 to prevent evaporation. Preferably, each well further includes **a gas or** an air bubble **60**, to allow expansion of the sample solution. The cuvette is preferably designed to cause the bubble to move to an area not exposed to the electromagnetic radiation, i.e. an area adjacent cap 58.

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